

IDAHO NATIONAL ENGINEERING
ENVIRONMENTAL LABORATORY PUBLIC MEETING

Test Area North Comprehensive Remedial
Investigation/Feasibility Study Proposed Plan

FINAL AS OF NOVEMBER 18, 1999

February 26, 1998
Moscow, Idaho
7:00 p.m.

Nancy Schwartz Reporting
2421 Anderson Street
Boise, Idaho 83702
(208) 345-2773

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1 projects is open until March 12, so we have roughly
2 two weeks to go in that comment period.
3 The agencies plan to sign a Record of
4 Decision on both of those projects some time this
5 summer and any remediation activities as a result
6 of that Record of Decision will begin, probably,
7 next year.

8 The purpose of tonight's meeting, for
9 those of you that have been before us, is really
10 three fold. First, we're here to present the
11 results of the 30-month investigation for
12 Test Area North; second, we're here to encourage
13 you to ask questions about the project and the
14 proposed plan and interact with our project
15 managers, which some of you have been doing
16 already; third, we're here to listen to your
17 concerns and receive your comments, both orally and
18 written comments. We have a comment form on the
19 back of the proposed plans that are postage-paid,
20 so you can write your comments on that, fold the
21 page and send it to us.

22 Your comments will be considered by the
23 agencies and responded to in the Responsiveness
24 Summary section of the Record of Decision.

25 We have a court reporter here tonight,

1 MOSCOW, IDAHO, THURSDAY, FEBRUARY 26, 1998
2
3 MR. SIMPSON: Welcome. I'm
4 Erik Simpson, the INEEL community relations plans
5 coordinator for the environmental restoration
6 program.
7 I think with such a small crowd, I would
8 like to keep it relatively informal tonight. We're
9 here to discuss the results of the Test Area North
10 Comprehensive Remedial Investigation/Feasibility
11 Study and subsequent proposed plan.
12 This is the fourth Comprehensive
13 Remedial Investigation/Feasibility Study completed
14 under our Federal Facility Agreement and Consent
15 Order, which is our legally binding clean-up
16 agreement between the Department of Energy,
17 Environmental Protection Agency and state of
18 Idaho. We have five more comprehensive
19 investigations under way, and we will be releasing
20 proposed plans on those projects during the course
21 of the next five years.
22 We were in Moscow about a month ago to
23 discuss and accept comments on the Naval Reactors
24 Facility and Argonne National Laboratory-West
25 proposed plans. The comment period for those two

1 who will be recording all portions of this
2 meeting. And I will talk about that when we have
3 the comment period.

4 At the back of the room, I notice that
5 some of you are already looking at those
6 documents. We have several other environmental
7 restoration program documents. We have the Federal
8 Facility Agreement and Consent Order. We have the
9 Community Relations Plan. We have several fact
10 sheets. We have the INEEL Reporter, and we also
11 have proposed plans for Test Area North, Naval
12 Reactors Facility and Argonne National
13 Laboratory-West.

14 With that, I think I will introduce
15 everyone who is here tonight. We have Mark Shaw.
16 Mark is the Department of Energy Waste Area Group 1
17 manager. Mark has been involved in this
18 investigation for about two years. We have Doug
19 Burns. Doug is with Lockheed Martin Idaho
20 Technologies Company, and he was instrumental
21 in conducting the risk assessment for this
22 comprehensive investigation. We have Dave
23 Michael. Dave is the project manager for the
24 comprehensive investigation. He's also with
25 Lockheed Martin. Then also in the audience we have

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1 Tim, who is the -- or was the Waste Area Group 1
2 manager for Lockheed Martin, and he has taken a job
3 elsewhere in the company but is here tonight in
4 case you have questions about the investigation.

5 With that, I would like to introduce one
6 of your agency representatives. We have Cody
7 here. He is with the State of Idaho Department of
8 Health and Welfare Division of Environmental
9 Quality. He will say a few statements.

10 MR. CODY: My name is Clyde Cody. I
11 work with the Division of Environmental Quality in
12 Boise, Idaho. I just want to say that we think
13 this is a good plan. We've worked with DOE and the
14 EPA on this plan for -- well, I have been involved
15 in this since about two years ago. My background
16 is a hydrogeologist, and I kind of worked into this
17 waste area group management position. We got to
18 this stage with the proposed plan, but we feel it's
19 now time for the public's input, and we're
20 interested in hearing what everyone has to say
21 tonight, so thanks.

22 MR. SIMPSON: With that, I would like to
23 ask Mark to come up here and give us a brief
24 background of Test Area North and a little bit
25 about the comprehensive investigation.

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1 MR. SHAW: To get oriented here, Test
2 Area North sits in the north central portion of
3 INEEL. The one here just means it's been
4 designated Waste Area Group 1.

5 TAN has a pretty interesting past.
6 It all started back in 1954 when President
7 Eisenhower heard a rumor that the Russians were
8 building a nuclear-powered airplane. He decided if
9 they are building one, we better build one too. So
10 we started the Aircraft Nuclear Propulsion Program
11 and sited it out in the Arco desert.

12 This is the hanger that they built for
13 the plane. They never actually built the plane,
14 but they did build a couple engines for it, which
15 were tested out at this facility. This is the
16 Initial Engine Test Facility. It no longer exists,
17 but that is what it looked like about 10 years
18 ago. After the nuclear powered airplane program
19 finished up, the emphasis shifted to reactor
20 research. This is the Water Reactor Research Test
21 Facility where they tested pool and table type
22 reactors.

23 If we go back to this first one for a
24 minute, you can see this is the Loss-of-Fluid Test
25 reactor where they did experiments on cooling water

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1 losses on reactor cores.

2 AUDIENCE MEMBER: Are those ponds the
3 LOFT leach pits or ponds?

4 MR. SHAW: Those are part of the SMC
5 projects, Specific Manufacturing Capability, that
6 is the project that is currently inside the
7 hanger. That is where they built tank armor for
8 the M1-A1 Abrams tank. They make that armor out of
9 depleted uranium.

10 AUDIENCE MEMBER: Is that still an
11 ongoing program?

12 MR. SHAW: Yes. This is just kind of a
13 big-picture view of all of the Test Area North.
14 The hanger sits out here. The white dome is the
15 LOFT reactor. A lot of activities has gone on
16 over the years which led to releases to the
17 environment. We all know the standards back in the
18 '50s and '60s weren't up to today's standards.

19 When we started this investigation two
20 and a half years ago, the goal was to find all the
21 potential release sites. So we looked at every
22 facility at TAN, all the activity facilities, all
23 the inactive facilities, abandoned facilities. We
24 found 94 potential release sites. Of those 94,
25 31 were addressed in a previous Record of Decision

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1 in the Operable Unit 1-07B Record of Decision.
2 Some of you may know that as the TAN groundwater
3 Record of Decision.

4 Of the remaining sites, eight have an
5 unacceptable risk for human health, that is really
6 what we're here to talk about tonight. Two sites
7 have unacceptable risk for ecological receptors.
8 And the remaining 53 sites are recommended for No
9 Further Action. What I would like to do is kind of
10 take the tour of those eight sites that have the
11 unacceptable risk for human health.

12 The sites are really divided up into
13 three categories, the first of which is the
14 nonradiologically contaminated soils. And the
15 first two of these sites are both burn pit sites.
16 If you look real close, you can see a depression
17 here, which is one of the burn pits. This kind of
18 gives you a little better picture. This is the
19 other burn pit site.

20 The burn pits is where they would take
21 things like construction debris, pallets,
22 two-by-fours, waste, paint, solvents, turpentine,
23 that kind of stuff, dig a pit, put the stuff in the
24 pit and at the end of the day, they would burn it
25 to dispose of it. A sampling has shown that there

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1 is still some lead in the soil.

2 The next nonrad soil site is the mercury
3 spill site. Back in 1958 when they were moving one
4 of the airplane engines, they managed to spill from
5 800 to 1000 gallons of mercury along the railroad
6 tracks. These reactors were shielded with
7 mercury. They cleaned up most of it at the time,
8 but didn't get all of it. We went back in -- I
9 think it was '93, and did a removal action where
10 the tracks were taken out, the ties were all taken
11 out. This area was excavated down about four feet
12 and backfilled with clean soil, but verification
13 sampling shows there is still mercury remaining.

14 And the last of the nonrad soil sites,
15 this is the diesel spill site. There were two
16 diesel tanks, one sitting over here and another one
17 over here and about 90 feet of pipe joining them.
18 The pipe leaked, contaminating the soil in that
19 area. The tanks and the piping have all been
20 removed, but there is still contamination
21 remaining.

22 Let's see, the next category of sites
23 are the rad soil sites, both of which are on this
24 picture here. The first one is called the Area B,
25 which is the area south of the turntable. The

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1 railroad turntable sits right there and we're
2 talking about this triangular area here. It was
3 contaminated from the area across the street right
4 here, which I will talk about in a minute. These
5 are the PM-2A tanks. There was a spill back in --
6 I think it was 1972 when transferring the contents
7 of those tanks into a tanker truck contaminated the
8 soil in this area, at least in the eastern end of
9 the state. The wind always blows this way. It
10 blew contamination across the road and into this
11 area. Removal action was done, but there is still
12 five small areas along the road here and a couple
13 others out there with cesium-137. And the other
14 rad soil site, if you look down at the bottom, this
15 is the disposal pond. This is the part of the berm
16 that the pond extends on down. It's about 35
17 acres, and five acres in this upper corner here are
18 contaminated with cesium-137 and possibly
19 radium-226.

20 The last category are the tank sites.
21 These are the V-Tanks, V-1, 2 and 3. V-9 sits just
22 off the picture over here. These are three 10,000
23 gallon stainless steel tanks. V-9 is a 400 gallon
24 tank. These tanks contain a listed hazardous waste
25 with metals, PCBs and rads. And the soils around

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1 the tank were contaminated when the tanks were
2 overfilled, so there is soil contamination in the
3 area also.

4 These are the two tanks that I showed
5 earlier on the other slide. These are the PM-2A
6 tanks. These are two 50,000 gallon carbon steel
7 tanks. They sit this way. Back in the '70s they
8 were pumped as dry as you could get them, which
9 means within about an inch of the bottom. The
10 waste in them at the time was similar to what was
11 in the V-Tanks. Diatomaceous earth was blown into
12 the tanks to absorb up the inch of liquid in the
13 bottom. Like I said earlier, there is some soil
14 contamination around the tanks from the spill.

15 That should give you a picture of what
16 we're talking about, the eight sites. Doug is
17 going to come up and go into some more detail on
18 the risk assessment.

19 MR. BURNS: First of all, I would like
20 to start off with a summary of the investigative
21 process that we have been through at Test Area
22 North. As Mark mentioned, we started off with some
23 preliminary investigations that identified
24 94 potential contaminant release sites at Test Area
25 North. These preliminary investigations lead into

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1 some No Further Action determinations where we
2 found some of these sites did not contain any
3 contamination. It also lead into several removal
4 actions that were taken. These actions were taken
5 to sites that had the highest potential for
6 producing human health impacts. These were sites
7 where we could readily remediate, take some
8 remedial actions. The removal actions included,
9 for instance, the mercury spill site cleanup that
10 Mark mentioned.

11 There was a buried bottle site, like a
12 settling bottle, that type of thing that were
13 buried. We cleaned those up.

14 There was also an injection well at Test
15 Area North that sits on the southern end of the
16 Test Area North. This well, back in the
17 1950s, '60s and '70s, injected contaminated liquids
18 into this well down into the aquifer. These
19 contaminated liquids formed a plume spreading out
20 from that well. And it also left some contaminated
21 sludge down in the bottom of this well. It was one
22 of your removal actions. Actually, the first
23 removal action that was taken at the INEEL back in
24 1989 involved taking this contaminated sludge out
25 of the bottom of this well. But we still have a

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1 contaminated plume that exists underneath the Test
2 Area North.

3 AUDIENCE MEMBER: Can I ask, what is
4 your treatment volume, like gallons per minute on
5 the pump and treat on that now?

6 MR. GREEN: It's 100 hundred gallons per
7 minute. We're running a facility that averages
8 about close to 90 percent of the time.

9 AUDIENCE MEMBER: Thank you.

10 MR. BURNS: These removal actions, no
11 further determinations, are all rolled into this
12 Comprehensive Remedial Investigation/Feasibility
13 study. That is a large document. It's a standard
14 document for the CERCLA evaluation process. In
15 that document all of the release sites are
16 summarized, all of these risk from those release
17 sites present calculations, risk results for those
18 release sites.

19 The proposed plan that we're here to
20 talk about tonight is a summary of this large
21 document, the RI/FS. The proposed plan is part of
22 this decision phase where we're asking for public
23 input. We're also asking for agency input, and
24 we'll address public and agency comments and come
25 to a final decision for Test Area North. This

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1 decision will be recorded in a Record of Decision
2 that will be a legal document that establishes
3 DOE's actions, what DOE will do to clean up the
4 Test Area North.

5 So this decision phase will lead into
6 remedial design and remedial action phase and could
7 lead to monitoring some of our release sites and
8 maybe No Action determinations at other release
9 sites.

10 The next six slides I'm going to show
11 you are summaries of the risk assessment that was
12 performed for the Test Area North. This risk
13 assessment consisted of two parts. There was a
14 human health analysis and an ecological risk
15 assessment. As Mark mentioned, the human health
16 analysis identified eight release sites that have
17 unacceptable human health risks. There are also
18 two release sites that had unacceptable ecological
19 risks. The two ecological risk sites are being
20 rolled into an INEEL-wide ecological risk
21 assessment. The reason that we have to do that is
22 because ecological risks, they present impacts to
23 populations of plants and animals. In order to
24 evaluate those impacts, you have to evaluate the
25 entire population. And you can't do that analysis

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1 on just a release-site-by-release-site basis. You
2 need to evaluate the whole populations across the
3 INEEL.

4 So the remedial actions that we're
5 talking about tonight are principally identified by
6 the human health analysis. So the human health
7 risk assessment in turn had two parts. First of
8 all, we assess risk for an occupational worker. We
9 assessed a current occupational worker risk to
10 workers who are presently working on the site. We
11 also assessed risk for workers who might work at
12 the sites, these contaminated sites, in 100 years
13 in the future. The reason that we chose 100 years
14 is because that is the point in time where we
15 expect DOE to give up institutional control of the
16 INEEL. The next portion of the human health
17 assessment was a hypothetical residential scenario
18 where we assessed risk to a hypothetical resident
19 who might move to the Test Area North, one of these
20 contaminated sites, in 100 years after
21 institutional control.

22 As part of the risk assessment, we
23 evaluated various exposure pathways. Exposure
24 pathways are, basically, means by which
25 contamination can move from the environment and

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1 enter a human's body. For instance, humans might
2 inhale contaminated dust, might ingest contaminated
3 soil. For each one of these exposure pathways that
4 are shown on this diagram, we calculated risk for
5 each contaminant that have been detected at each of
6 our release sites. So we have multiple risks for
7 multiple contaminants by multiple exposure pathways
8 that are all summarized in the RI/FS.

9 The contaminants of concern that were
10 identified by the risk assessment are those shown
11 on this slide. First of all, we had a couple of
12 radionuclides that stood out, specifically
13 cesium-137 and radium-226. These contaminants show
14 up principally the TSF disposal pond and soil
15 contaminations that are also contained in --
16 specifically, cesium is contained in the tank
17 sites. We had metal contamination, specifically
18 mercury contamination of the mercury release site.
19 We have lead contamination at the burn pits, and
20 manganese and arsenic contamination that showed up
21 at the disposal pond.

22 We had diesel contamination at the
23 WRRTF diesel spill site. This diesel
24 contamination, again, it's subsurface
25 contamination. We had organic chemicals that

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1 showed up. These are principally chlorinated
2 solvents. They are contained in our tank sites.
3 Also along with the organic chemicals we have
4 polychlorinated biphenyls that have shown up at our
5 tank sites, PCBs that have shown up.

6 AUDIENCE MEMBER: In your plan that went
7 out, it suggested in there that the radium-226 is
8 naturally occurring. Do you know what that is a
9 daughter product of?

10 MR. BURNS: Radium-226?

11 AUDIENCE MEMBER: Is a daughter product
12 of uranium-238.

13 MR. BURNS: Which is also naturally
14 occurring.

15 AUDIENCE MEMBER: It's also not
16 likely -- it's more likely that that is a daughter
17 product of a waste dump there than if it is
18 naturally occurring.

19 MR. BURNS: What we have is, we have
20 taken 41 samples within the disposal pond. Those
21 are the samples from within the pond. We compared
22 those sample results against 260 samples that have
23 been collected across the INEEL at uncontaminated
24 sites across the INEEL. The population of the 41
25 sites matches the population of 260 samples with a

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1 95 percent confidence, a statistic confidence. As
2 far as we can tell with the sample results that we
3 have right now, the radium-226 appears to be
4 naturally occurring, but we're going out to collect
5 more samples within the disposal pond to try to
6 verify that assumption. Dave will be talking a
7 little bit more about those samples.

8 The next three slides summarize the
9 actual risk results that were calculated in the
10 risk assessment. Now, this slide specifically
11 shows the results of the occupational exposure
12 scenario that we conducted. What this graph is
13 showing on this scale here, these are risk
14 results. Let's imagine, first of all, that we have
15 a release site where a worker who was working at
16 that site had one chance in 10 of developing cancer
17 as a result of working at the site for a long
18 period of time. That is a one chance in 10 of
19 developing cancer over his or her entire lifetime.
20 If we had a site like that, the risk for the site
21 would fall right here at the one in 10 level. This
22 graph is showing us that the maximum calculated
23 risk for any of the release sites at Test Area
24 North follow the one in 1,000 risk level.

25 EPA has established an upper bound of

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1 the acceptable risk range as a risk of one in
2 10,000. So this graph shows that we have several
3 sites that fall above this acceptable risk level in
4 the unacceptable risk range. These sites include
5 the PM-2A tanks, the V-Tanks, the soil
6 contamination area and the disposal pond.

7 We should also mention that there are
8 three sites at Test Area North where all the
9 contaminants at these sites do not have toxicity
10 values, so we could not calculate risks at these
11 sites. What we did at this these sites was we
12 collected samples and compared the samples results
13 against other regulatory limits. For example, the
14 burn pits had lead in them. We have detected
15 concentrations of lead that exceed a residential
16 clean-up standard of 400 PPM. So as a result of
17 that exceedence, we identified the burn pits as
18 also having unacceptable contamination present.

19 This slide summarized the residential
20 exposure scenario. It's a very similar graph.
21 Again, we have risk on the left axis, but under the
22 residential exposure assumptions, we have several
23 more sites that pop up with unacceptable risk. We
24 have, again, the V-Tanks, the PM-2A tanks, the
25 disposal pond, soil contamination area, but also

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1 the mercury spill site has an unacceptable risk
2 under the residential assumptions.

3 AUDIENCE MEMBER: How do you assume that
4 the mercury and the lead get into the people to
5 cause the problem?

6 MR. BURNS: Well, the mercury -- again,
7 we evaluated risk from all those exposure routes,
8 inhaling of dust, eating the contaminated -- or
9 soil contaminated with mercury or lead. There
10 were several different exposure routes that we
11 evaluated. For the mercury, specifically, we also
12 evaluated -- we assumed a resident might grow a
13 garden in the mercury contaminated soil. Mercury
14 bioaccumulates in plants. As a result, the
15 concentration that a person might eat in a garden
16 vegetable could probably be higher than if the
17 person ate directly the soil that the garden was
18 grown in. It's that exposure route that really
19 drives our mercury risk. We also evaluate all
20 those exposure routes for lead. But, again, lead
21 doesn't have toxicity values. It doesn't have the
22 information needed to calculate a risk result like
23 we do for other contaminants. So we compare our
24 lead concentrations against other standards besides
25 risk standards. Did that answer your question?

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1 AUDIENCE MEMBER: Yeah, you actually
2 have real data on the uptake of mercury by
3 different plants?

4 MR. BURNS: Different plants are
5 actual -- there are different studies that evaluate
6 by bioaccumulation, how much lead bioaccumulates.

7 AUDIENCE MEMBER: Of mercury.

8 MR. BURNS: Of mercury, I'm sorry. That
9 is right. Mercury is a pretty important
10 contaminant across the county, so there have been
11 lots of studies that have been conducted on that
12 contaminant.

13 MR. CODY: Some of the remediation
14 efforts have dealt with using plants for uptake of
15 mercury and then harvest the plants and then
16 dispose of them. I think grape seed is one that is
17 used for canola oil. That is one that is well
18 known for uptaking mercury. It was news to me,
19 too, when I first learned about it.

20 MR. BURNS: One thing to point out about
21 this mercury spill site is that this spill happened
22 back in 1958 and all the mercury feeds, the actual
23 element of liquid mercury was cleaned up at that
24 time. The mercury that is left in the soil is now
25 complex with the soil. It's complex with various

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1 ions. We don't actually have liquid mercury in the
2 soil, so plants growing in that soil can actually
3 take the mercury out of the soil and bring it into
4 the plant material. They are actually growing in
5 soil rather than the liquid mercury.

6 This final slide shows the results of
7 the noncarcinogenic portion of our risk
8 assessment. The first two slides showed risks
9 associated with people developing cancer as a
10 result of being exposed to the site.

11 This slide deals with other health risks
12 besides cancer. Now, the scale on this graph is
13 slightly different. EPA has performed many tests
14 for various chemicals that identify levels of
15 exposure that do not produce any noncarcinogenic
16 health effects. For most contaminants there is a
17 level that you can intake without causing any harm
18 at all, any noticeable impact at all, so that
19 is an acceptable level of exposure for a given
20 contaminant. What a hazard quotient is, the hazard
21 quotient is the calculation that is performed that
22 is noncarcinogenic risk assessment. The hazard
23 quotient is simply the ratio of an exposure that
24 would be produced by one of your sites compared to
25 this acceptable level. So if an exposure from our

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1 site was exactly equal to the acceptable level, we
2 would come up with a calculated hazard quotient of
3 one. Sites that produce more exposure than the
4 acceptable level fall in the unacceptable region of
5 the hazard quotient analysis. As you can see from
6 this graph, we have several sites that have
7 unacceptable hazard quotients by our risk
8 assessment. The mercury spill site is the site
9 with the highest unacceptable hazard quotients, and
10 we also have the disposal pond, the soil
11 contamination area, the V-Tanks and the PM-2A
12 tanks.

13 So that summarized our risk assessment.
14 Are there any other questions about risk
15 assessment?

16 AUDIENCE MEMBER: Just a comment. There
17 is no known relationship between mercury toxicity
18 and carcinoma in humans.

19 MR. BURNS: Right.

20 AUDIENCE MEMBER: As such, it would not
21 change your assessment any, but your slides are
22 wrong.

23 MR. BURNS: Well, the mercury spill
24 site, you're saying that the risk slide that showed
25 the --

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1 AUDIENCE MEMBER: I'm saying that the
2 slide that showed the risk of carcinoma development
3 should not include mercury.

4 MR. BURNS: That is right. This is the
5 mercury spill site, though, we have identified
6 other contaminants besides mercury.

7 AUDIENCE MEMBER: Then put down the
8 contaminant that you're talking about. If you're
9 talking about mercury, you're talking about
10 mercury. If you're talking about PCBs, you're
11 talking about PCBs. There is a marked difference.

12 MR. BURNS: Absolutely. You're
13 absolutely right. There is no carcinogenic impact
14 for mercury that has been identified.

15 AUDIENCE MEMBER: As I say, it doesn't
16 change your outcome.

17 MR. BURNS: That is right. The outcome
18 is still the same since we have the unacceptable
19 hazard quotient.

20 AUDIENCE MEMBER: It goes out to the
21 liver, doesn't it, mercury?

22 AUDIENCE MEMBER: It's a neurotoxin,
23 kind of like lead. People get confused and lose
24 their memory and have seizures and die.

25 I think, maybe, that is the reason there

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1 is no known malignant change. If you get enough
2 mercury, if you get any kind of malignant change
3 you're dead. I don't know. I just pulled that out
4 of my pocket.

5 AUDIENCE MEMBER: It's sort of similar
6 to the uranium exposures, like at Fernald. It
7 wasn't really a carcinogenic problem, it was a
8 liver that was the real risk driver.

9 MR. BURNS: I think uranium, being a
10 heavy metal, it can cause other problems besides
11 carcinogenic impacts.

12 Next we will have Dave Michael come up
13 and start explaining a little bit about our
14 remedial action that we're proposing as part of
15 this proposed plan.

16 MR. MICHAEL: So far tonight part of our
17 discussion tonight has been on the history of the
18 site. We talked about how we did the initial
19 evaluations. We mentioned that we had eight sites
20 that had risk associated with those sites that were
21 unacceptable. Then we just had the discussion
22 about risk. The next portion of our discussion
23 tonight -- we just want to present to you the
24 remedial alternatives that we've looked at and
25 provide to you the ones that we feel are the best

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1 alternatives and explain why and then receive your
2 comments.

3 When we started looking at remediation
4 alternatives, the first thing that we had to do was
5 to develop remedial action objectives. In other
6 words, these would be the goals that would be
7 required to be met for whatever alternative that we
8 were to pick.

9 We divided the eight sites up into
10 different groups. The first group was the soil
11 contaminated sites. There are actually two types
12 of soil contaminated sites. We have the
13 radionuclide contaminated sites and the
14 nonradionuclide contaminated sites.

15 For both those groups of sites, our goal
16 that would be required to be met that we would be
17 required to reduce the risk from the exposure of
18 cesium and radium to less than one in 10,000. And
19 that would be for both future residents and it
20 would also be for the occupational workers.

21 For the site that was contaminated with
22 lead, we needed to -- our remedial action objective
23 for that site was to prevent direct exposure to
24 lead greater than 400 milligrams for kilograms.
25 The site that had the mercury contamination, we

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1 wanted to prevent the uptake of mercury -- and as
2 we had the discussion awhile ago for the homegrown
3 produce for a future resident.

4 For the underground storage tanks,
5 whatever we do, our goal would be required to be
6 that we would prevent any release of the tanks'
7 contents to the environment. We have had no known
8 release of the tank contents that are in these
9 tanks now. Whatever we do, we need to make sure
10 that we don't release the contents.

11 The last group that I'm going to just
12 mention briefly is a co-located facilities.
13 Co-located facilities are not one of the 94 that
14 we've looked at, but a co-located facility is a
15 site that is next to or near one of the 94. And we
16 looked at these sites, evaluated them, and our goal
17 would be, for those sites, that we would prevent
18 any risk from exceeding one in 10,000 if we ever
19 discover risk in the future or if there is
20 contamination or something that would be there that
21 we reevaluated and found that we had a problem.
22 The same thing for those same sites, we would want
23 to make sure that we would never exceed a hazard
24 quotient greater than one of those near or next to
25 sites.

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1 Also, our goal would be that if we ever
2 found a site, a co-located facility site that had a
3 problem, that had excessive risk, our goal would be
4 that we would go in and clean it up and would
5 remediate that facility. And we would remediate it
6 to levels that would be an acceptable risk.

7 After we developed the goals, then we
8 evaluated each remediation alternative, and we had
9 a set of criteria that we evaluated them to compare
10 each one with. These are criteria that are
11 required by law that we look at and evaluate our
12 remediation activities to.

13 There is actually nine of them. The
14 first two we call threshold criteria. A threshold
15 criteria are those criteria that would have to be
16 met for whatever remedy that we were to pick. The
17 threshold criteria are to protect the human health
18 and the environment. And then that would be for
19 both groundwater contamination and surface
20 contamination. And whatever we would pick, it
21 would also have to apply to laws, and that would be
22 federal laws and state laws.

23 The next group of criteria that we
24 compare with is that remedies' ability to fall into
25 this group that we call the balancing criteria.

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1 These are comparative type criteria that we compare
2 each alternative to. We have the long-term
3 effectiveness, which would be for future residents,
4 whatever criteria that we would pick, how does it
5 impact future residence.

6 We had the short-term effect, that would
7 be for the construction workers, the current
8 workers that are there. We'd look at that
9 remedies' ability to reduce the toxicity, the
10 mobility of the contamination or the volume
11 through treatment.

12 We'd also look and see how easy it would
13 be to implement the alternative. The last one is
14 the cost. We look at the cost of whatever the
15 remedy would be and we compare that with each.

16 After we have compared these, there are
17 two other criteria that we had and that is what we
18 call the modifying criteria. Whatever remedy that
19 we were to pick, that remedy would have to have
20 acceptance by the state. It also would be required
21 to have the community acceptance. That is one of
22 the reasons that we're here tonight. We want to
23 tell you what alternatives we looked at, which one
24 we recommend so that we can get your acceptance.

25 We're going to look at the soil sites

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1 first, both the nonradionuclides contaminated and
2 the radiological contaminated sites. And one
3 alternative that we looked at was no action. What
4 if we did nothing and just walked away and left the
5 site as it was right now? For every site that we
6 looked at no action, just walking away, would not
7 meet the threshold criteria, so it was immediately
8 dropped.

9 The second thing that we looked at is
10 what we call limited action. Limited action would
11 be actually controlling access to that contaminated
12 site. One of the ways that would control access is
13 that by putting perimeter fencing around it. We
14 would have signs letting anybody know that would
15 come near it that there was a contaminated site
16 there. Also with the signs and the fencing that
17 anything that we would have to do to divert any
18 water shed, we want to make sure that we don't have
19 water running over the site or standing on the
20 site.

21 We also, if necessary, would do deed
22 restrictions. Right now the Department of Energy
23 is controlling, managing the INEEL. If at some
24 time that was turned over to another agency, there
25 would be deed restrictions on record and then even

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1 when it was turned back over to the public, just
2 like if you were to build a home, you check the
3 deed and check any deed restrictions that would be
4 on the property. So there would always be
5 something letting people know that there was a
6 problem there.

7 AUDIENCE MEMBER: Yes. With the
8 institutional control in the limited action, where
9 is the federal government, Department of Energy or
10 whatever, where is the legal requirement to
11 maintain, whether it's a fence -- where is it
12 defined, specifically, what that institutional
13 control includes and where is it legally binding?
14 Would that be in the Record of Decision?

15 MR. MICHAEL: Records of Decision.

16 AUDIENCE MEMBER: I don't recall that
17 being spelled out, in terms of a legal requirement
18 that they have six foot, you know, galvanized
19 fence. I have never seen it spelled out that
20 way.

21 MR. SHAW: I think it would be in the
22 Records of Decision. I don't know how much detail
23 it would go into in the ROD. If it would specify a
24 six-foot fence and culverts every so far, but I
25 think the ROD would be the legal document. The

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1 details of it would probably be in the remedial
2 design.

3 AUDIENCE MEMBER: If it's not in the
4 ROD, I mean, it's not going to be legally binding.
5 I read all the RODs and I have never seen it. My
6 point being is, unless those specific aspects of
7 institutional control are spelled out so they are
8 legally binding, it's kind of a meaningless thing
9 to say that, you know, they are going to take care
10 of it for a hundred years, because if in 10 years
11 there is no longer a Department of Energy, and God
12 knows things like that happen, you know, what is
13 the state going to do in order to require the
14 Department of Interior, or whoever else, BLM, might
15 take over that site and say there were commitments
16 made, and they say, "Well, where is it? We don't
17 see it." I'm sorry. Go ahead.

18 AUDIENCE MEMBER: You assume 100 years;
19 is that right?

20 MR. MICHAEL: A hundred years.

21 AUDIENCE MEMBER: After a hundred years,
22 what happens after a hundred years?

23 MR. MICHAEL: One of the things that we
24 will be doing, if there is any contamination left
25 at the site, would be also to install permanent

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1 markers, like a large concrete marker, like a
2 brass cap that would tell you what was there.
3 Then one of the points that I also want
4 to bring up, during that 100 years, is that we
5 would also be monitoring that site on an annual
6 basis to make sure that the contamination is not
7 spreading or getting worse. We also, every five
8 years, will evaluate the monitoring and the
9 maintenance of the site, so we'll reevaluate every
10 five years to make sure that the remedy that we
11 picked is still the preferred alternative and is
12 still working.

13 AUDIENCE MEMBER: But I never seen that
14 spelled out in the ROD. What monitoring? What
15 specifically does that mean?

16 MR. GREEN: We will spell it out, like
17 for the diesel site, we have a down-gradient well.
18 So we will say that that well will be monitored
19 biannually for the contaminants concerned or TPH or
20 the total hydrocarbons.

21 So, if there is a monitoring element in
22 our limited action, the Record of Decision would
23 set that up. If it was just like the signs control
24 on these small burn pits that we would go back out
25 there to keep water from ponding, that will be

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1 spelled out in the Record of Decision exactly what
2 that limited action means in terms of doing
3 something, in terms of visually going out there and
4 documenting it, if somebody did go out there and
5 kick the tires and look at it. That will be in the
6 Record of Decision, exactly what that monitoring
7 will be.

8 AUDIENCE MEMBER: That will be a
9 departure from the previous ROD.

10 MR. GREEN: That is what we intend to
11 do.

12 AUDIENCE MEMBER: Good. I'll watch and
13 wait for it with bated breath.

14 MR. MICHAEL: The next type of
15 alternative that we looked at is containment.
16 Containment could be an engineered barrier. It
17 could be, say, a natural soil covered cap that is
18 some way of containing the contamination if we were
19 to leave it in place. We also looked at different
20 types of excavation and disposal. We looked at
21 different types of excavation and treatment.

22 Again, these are all the different types
23 of alternatives that we looked at for the soil
24 contaminated sites. After all the evaluations --
25 we'll look first at the nonradionuclide

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1 contaminated sites. The Water Reactor Research
2 Test Facility burn pits, there is actually one
3 site that we call the burn pits for this, but there
4 is actually four burn pits at that site. Our
5 preferred alternative would be the limited action.
6 That is just what we discussed a few minutes ago
7 about using the perimeter fencing, the signs, the
8 water diversion, we would bring it up to the
9 natural grade and then to continually check it
10 every year, every five years, reevaluate it, but
11 that is our preferred alternative for that site.

12 Again, if you remember, the primary
13 contaminant of concern for this site was lead that
14 was in the burn pits.

15 The other burn pit, the Technical
16 Support Facility burn pit, our preferred
17 alternative for that site also is limited action.
18 It would be the same type of things that we just
19 discussed about limited action.

20 For the site that was the mercury spill
21 site, we looked at different alternatives for that
22 one. By the way, each one of these alternatives
23 that we looked at are described in detail in the
24 Remedial Investigation/Feasibility Study, and they
25 are also described in the proposed plan.

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1 This site, after looking at several
2 different types of alternatives, our recommended
3 alternative for this site would be to excavate the
4 contaminated soil and dispose of it off site. When
5 I say "off site," I mean off the INEEL.

6 AUDIENCE MEMBER: Where would that be?

7 MR. MICHAEL: It would have to be some
8 place in the county that would have a mercury
9 retort.

10 MR. GREEN: There is one out in
11 California that accepts mercury waste. There is
12 one in Pennsylvania, as long as the radiation
13 levels aren't greater than what they can take in
14 their retort system.

15 AUDIENCE MEMBER: Well, I guess one of
16 the concerns is that it wouldn't go -- you might
17 try to send it to Enviro-Care which is not a RCRA
18 Subtitle C qualifying dump. That is why they are
19 being sued.

20 MR. MICHAEL: I don't believe they
21 have -- this would be to treat the soil. I don't
22 believe they treat mercury contaminated soils. It
23 would have to a facility that actually treats the
24 soils.

25 The last one is the diesel spill site.

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1 After evaluating the different types of
2 alternatives for this one, our recommended
3 alternative is limited action. If you remember,
4 the spill site area was actually between two
5 buildings. This soil, it was cleaned up at one
6 time, so the first top five feet is clean soil.
7 This was where they had a spill in a pipeline leak,
8 and it now has approximately five feet of some
9 clean soil above it.

10 It is also because it's between the
11 buildings, it has a roadway and a parking lot on
12 top of it, so it also has already, like, a natural
13 cap because it's between the buildings. But our
14 recommended alternative for this one would be
15 limited action. Because it's at the Water Research
16 Reactor Test Facility, that facility does have a
17 fence already around it, so we would make sure that
18 it was still fenced and signed.

19 The two soil sites that were
20 radiologically contaminated, the first one is the
21 soil site that is south of the turntable. This was
22 at the Technical Support Facility. Part of it is
23 along the edge of the road, part of it is
24 underneath the road. We have already done -- at
25 the site, we've already done some cleanup through a

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1 site-wide soil cleanup program. There are still a
2 couple spots that are still left. After looking at
3 the different types of remedies, our recommended
4 remedy would be to go in and physically remove the
5 contaminated soil and dispose of it someplace at
6 the INEEL at an acceptable facilities.

7 AUDIENCE MEMBER: Can you further
8 explain that?

9 MR. MICHAEL: Right now, it could go to
10 either the RWMC, the Radioactive Waste Management
11 Facility. There is a program that --

12 AUDIENCE MEMBER: Which is not a RCRA
13 compliant disposal site for mixed low-level waste.

14 MR. GREEN: The mixed waste would be low
15 level only, so they could go to the RWMC.

16 AUDIENCE MEMBER: But it is a mixed
17 low-level waste.

18 MR. MICHAEL: Not this soil area. This
19 is just a straight low-level waste.

20 MR. GREEN: Do you remember the 106
21 removal action that was done at WAG 10 a while
22 back?

23 AUDIENCE MEMBER: Where was that?

24 MR. GREEN: It was site-wide. They went
25 across the site and picked up rad soils. They put

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1 it in a warm waste pond. This was partially
2 cleaned up here and there at that time that they
3 left -- they did their verification sampling and
4 they found some hot spots. That is what we
5 removed. It was low level.

6 MR. CODY: Did you see in there where it
7 said otherwise? In that proposed plan where it
8 said otherwise, did you see an indication that this
9 was mixed?

10 AUDIENCE MEMBER: Yeah. There is a
11 number.

12 MR. CODY: There are several. There is
13 mixed waste.

14 AUDIENCE MEMBER: It's also in the site
15 treatment plan where it identifies those waste
16 streams as mixed low-level waste. You know, if you
17 go in and you look at the TCLPs, it clearly exceeds
18 the regulatory limits there. I mean, there is no
19 question in my mind that it's mixed low-level
20 waste. You can't legally put that in anything but
21 a RCRA Subtitle C and NRC compliant mixed
22 low-level waste disposal site, legally.

23 Now, they fought that battle -- we were
24 talking about this earlier at Hanford -- with the
25 same waste streams. The contaminated soil, they

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1 are mixed contaminated soils and also there were
2 D&D waste. And the regulators and the public
3 forced DOE to build something called the
4 Environmental Restoration Disposal Facility, which
5 is a RCRA compliant subtitle NRC compliant
6 low-level waste disposal site. That is where they
7 are sending their stuff. You guys at DEQ and EPA
8 are going to lean on these folks and get them to do
9 the same thing because, legally, you can't do the
10 kind of dumping like was done at the TRA, Test
11 Reactor Area, the warm waste pond. And what you
12 want to do at the NRF and also at Argonne, you
13 can't legally do that.

14 MR. GREEN: We're extremely sensitive
15 about mixing soils. We know at the RWMC their
16 waste acceptance criteria. You're right, is
17 low-level waste only. We have sites at Test Area
18 North like the soils around the V-Tanks. The rad
19 soils around the PM-2A tanks, we know because the
20 TCE now carry a listed waste code on them. But the
21 sites that we have, we're just talking pure rad
22 soil sites for an on-site disposal.

23 MR. CODY: If it's above a certain
24 regulatory level, it won't go to RWMC, you're
25 right.

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1 AUDIENCE MEMBER: You've already done
2 it. We've seen you do it. We've seen you try to
3 do it at NRF and here it looks like you're going to
4 try to do it again. You're not defining where this
5 off-site or on-site dump is going to be and whether
6 it's going to become compliant or not.

7 MR. GREEN: I will just reiterate that
8 we won't be taking any mixed soils from, at least,
9 to the RWMC.

10 MR. MICHAEL: The next sites that we
11 would look at --

12 AUDIENCE MEMBER: Until you define where
13 you're going to take it, tell us where you're going
14 to take it and be absolutely definitive about where
15 you're going to take it. You can squeak around
16 these kinds of discussions because it's out there
17 in the never-never land, and we won't know until we
18 read the Record of Decision and then it's over.

19 MR. CODY: One thing I can assure you
20 that these discussions are ongoing at the DEQ and
21 have been and are going on as we speak. I mean,
22 this whole issue. It's definitely being discussed,
23 so if you want to talk about it sometime, give me a
24 call.

25 AUDIENCE MEMBER: Okay.

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1 MR. MICHAEL: The Technical Support
2 Facility Disposal Pond, that was the pond that is
3 about a 35-acre at the pond. About five acres of
4 that pond have contaminated soil. The two
5 contaminants of concern of this pond are the cesium
6 and the radium. Just a kind of summary of your
7 previous discussion, the primary contaminate of
8 concern, it would be the radium, that is the risk
9 driver, but the data that we have taken, the sample
10 data indicates that the radium that is at the pond
11 is actually natural occurring.

12 Our plan right now is to continue to
13 sample, to take additional samples both in the pond
14 and outside of the contaminated area and evaluate
15 it and to verify that the radium levels there are
16 natural occurring. If the radium levels are
17 natural occurring through the further sampling
18 analysis, then our preferred alternative would be
19 the limited action. We will put the fences up, the
20 signs as we do with the rest of the sites.

21 Now, this particular one that if we
22 determine that the radium is not natural occurring,
23 but is above natural occurring levels, our second
24 choice, then, would be -- our fall-back position
25 would be to actually excavate and dispose of it.

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1 Because it's such a large area, the cost associated
2 with actually excavating and disposal could run up
3 to \$20 million, so that is why we want to go ahead
4 and do the additional sampling and analysis and
5 verify and make sure that it is natural occurring.

6 AUDIENCE MEMBER: Is this another
7 example where you have -- what is it called?
8 Uncontrolled RCRA release site, and you're not
9 going to do anything about it, essentially. And
10 this is one of the identified waste streams that is
11 listed in site treatment plan as being a mixed
12 low-level waste. It's real tough to understand how
13 you can justify just walking away from it.

14 MR. GREEN: The portion of the pond that
15 we're looking at actually has a waste water land
16 application permit for it now. It's an active
17 pond, so it is a permanent discharge at this time.
18 When they took out the injection well, this is
19 where they started taking the cold waste versus
20 taking it to the injection well.

21 We have not seen any -- we got -- Doug
22 said 45 samples, we actually have 75 samples in the
23 pond. There was no indication that it was a mixed
24 release or mixed waste. I'm not sure on the
25 site-wide treatment plan. The pond is listed as

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1 a --

2 AUDIENCE MEMBER: It's listed. It's
3 listed. You did that yourself. I mean, I didn't
4 create that. And you know, now that you mention
5 it, that is really terrible that it's an
6 existing -- it's still in use from the post
7 treatment for the pump and treat that you're
8 dumping, what, 300 picocuries per liter of
9 strontium-95 in there in violation of the
10 Clean Water Act.

11 MR. GREEN: It's nonrad.

12 AUDIENCE MEMBER: I mean, when you
13 continue to put recharged water in there, that is
14 going to only continue the leaching problem of
15 whatever contaminants are in those leach pits. I
16 mean, that is nuts. That is just nuts.

17 MR. GREEN: When they did the
18 investigation of the pond, there were some
19 borings. They went down and -- actually, they are
20 still out there, that was sampled. There was some
21 perched water body or small saturated zone and we
22 didn't find may contaminants in it.

23 AUDIENCE MEMBER: Aluminum, barium,
24 mercury, sulfates, they are all real high in your
25 own sampling data.

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1 MR. GREEN: The only mercury that I'm
2 aware of that was high, we took one sample out of
3 75 had 67 parts per million, I think --
4 AUDIENCE MEMBER: How about 4,040?
5 Aluminum is at 25,400. Barium is at 9,740.
6 Mercury is at 440. Sulfide is at 4,270.
7 MR. GREEN: Right. There was when
8 mercury had an N-flag, which means it was a not a
9 valid data point, so we didn't use it in our
10 assessment of the pond. None of the other mercury
11 levels were that high.
12 MR. CODY: Do you remember what document
13 that came out of?
14 AUDIENCE MEMBER: The RI/FS.
15 MR. MICHAEL: The other set of sites --
16 we talked about the two different types of soil
17 sites. The other sites is the underground storage
18 tanks. The phrase that you see is the V-Tanks.
19 V-Tanks was just a nomenclature, terminology that
20 was used on the drawings and stood for vessels,
21 Vessel 1, Vessel 2 and Vessel 3. And they picked
22 up the nickname of V-Tanks. And then we had PM-2A
23 tanks, which were the two 50,000 gallon tanks, so
24 we're talking two different tank sites here.
25 We did many different remedies, looked

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1 at many different remedies, alternatives, compared
2 them. Actually the V-Tanks -- what you see here is
3 a summary. We actually looked at 10 different
4 types of remedies with V-Tanks and nine different
5 types with the PM-2A tanks.
6 To summarize the type of remedies that
7 we looked at, we looked at the No Action. That
8 would not meet the threshold criteria, so it was
9 dropped. The limited action that we looked at,
10 again, we discussed quite a bit what limited
11 action is, that would be signs, fencing, annual
12 monitoring, five-year evaluation, controlling the
13 water diversion from being on top of the site. We
14 looked at soil excavation, taking the tanks out and
15 then different locations where you would either
16 treat the contents on the site, treat it off the
17 site and disposal of them on and off.
18 We also looked at soil excavation,
19 treating the tank contents, and then we would
20 remove the soil from around the tanks and dispose
21 of it off site, and we looked at disposing of it on
22 site. The in situ treatment that we looked at, we
23 want to point out that in situ would be like
24 grouting the contents in the tanks. There is
25 liquids. There is sludge. You would mix grout

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1 with it and bind the contamination with grout.
2 Grout is like concrete. We looked at that.
3 As we discussed earlier, these contents
4 have high levels of organics. We're not sure what
5 the high levels of organics would do to the
6 grouting process. How hard would the grout get?
7 Right now we have a treatability study
8 going on that we're looking at the effect of
9 organics on grouting. We also looked at in situ
10 vitrification of the tanks' contents, the soils and
11 the tanks themselves. Now, in situ vitrification
12 is a technology where you take graphite rods and
13 electrodes, put them in different arrays around the
14 contamination. You put high current and actually
15 heat up the area, whatever is between those rods,
16 whether it be the soil, whether it be the tanks,
17 the contents, the sludge, it would heat it up hot
18 enough that everything melts and becomes a molten
19 mass. One of the unique features about in situ
20 vitrification is that when you heat it up to where
21 it becomes a molten mass, the PCBs are destroyed,
22 the organics are destroyed. The radiation that you
23 would have in that area that, say, like different
24 hot spots, becomes now a lower-level uniform
25 radiation spread throughout the mass, so the

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1 radiation levels are much lower.
2 This technology has been around for
3 awhile and been used, but the type of technology,
4 the way they place the RODs now, where before they
5 used to put, like, four around, like, a box level
6 around the site. The melt would start at the top
7 and work down. A new technology has been developed
8 now where they actually lay the array of electrodes
9 in a plane configuration. And so when you apply
10 the current, now the melt, when it starts melting,
11 is actually going from the outside and working
12 towards the center, where the old method was from
13 the top down. So by doing this, it's a new
14 technology that appears that you would be able to
15 melt the tanks and not have a problem with, say, a
16 tank building up pressure and exploding, because
17 now the melt is coming in from the sides instead of
18 the top.
19 We are also doing a treatability study.
20 A treatability study is just further studies to
21 test the technology. We're doing a treatability
22 study right now with tanks that are almost full
23 scale. They are about 80 percent full scale just
24 to make sure that this technology does, in fact,
25 melt from the sides, and we don't have any problems

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1 with tanks. So that study is going on.

2 These are the different technologies
3 that we've looked at.

4 AUDIENCE MEMBER: The last time that you
5 tried that, it blew up, that was my understanding.
6 Is that right?

7 MR. MICHAEL: There has been problems in
8 the past with tanks where they melted from the top
9 down. The heat would build up in the tanks. There
10 was no place for the pressure to be released.

11 AUDIENCE MEMBER: With those kind of
12 concentrations of VOCs in there, it's just asking
13 for boom.

14 MR. GREEN: The situation with the tank
15 was more that they actually started heating up some
16 saturated soils. They had a steam flash. It
17 wasn't a tank. It was the soil that got hot,
18 steamed and it poofed. This is a little
19 different. We have dry soil, of course, in terms
20 of -- Dave mentioned it, but there is a big super
21 structure where they will be sitting on top of the
22 tanks while they are melting. We expect to get
23 almost total destruction of the organics in the
24 tanks, but there probably will be some coming off,
25 so we will have a thermal oxidizer sitting on this

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1 with this all-cap treatment system of the tanks
2 will melt. We are very sensitive to that.

3 AUDIENCE MEMBER: That was a solid
4 canopy on the last one, wasn't it?

5 MR. GREEN: At INEEL or at Oak Ridge?

6 AUDIENCE MEMBER: INEEL.

7 MR. GREEN: I think they had one with a
8 canvas fabric type.

9 MR. SHAW: That is important to
10 remember. Maybe I can explain it a little
11 different. You have the tanks sitting this way,
12 like, it's coming at you. The idea is to get the
13 melt going on either side of it like this. And
14 before you even do that, they will take, like,
15 vibratory beam and puncture the top of the tanks.
16 So what happens, then, you have your tank sitting
17 like this, you melt in from the sides, and it gives
18 the gases a places to go. They will escape -- as
19 you dry out the contents of the tanks, it
20 depolarizes the volatiles and all that, the gases
21 will go straight up through the top.

22 If you can imagine coming down on the
23 top of a tank like that -- I mean, the gases don't
24 have any place to go except straight up through the
25 melt. And that is not a good thing. To avoid all

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1 that, they have come up with a planar melt where
2 you can, in this, like this, and the gases go
3 straight up the top and get captured in the hood
4 that Tim mentioned.

5 So you avoid all the problems with
6 pressurizing the tanks. You design into it -- you
7 give the gases a place to go. It's a real neat
8 technology. These folks have a tox operating
9 permit, so the PCBs are not a problem. Like Dave
10 said, the rad is evenly distributed throughout the
11 volume of melt. These guys have vitrified
12 plutonium before. They have done scrap metal.
13 They have done tanks. They have done concrete. It
14 looks real promising.

15 MR. GREEN: Part of our treatability
16 study at Hanford, we will have, I think, it has
17 five vent shafts in the tank that is going to be
18 buried, and we will have pressure transistors in
19 the tank vents, also thermocouples, so we will know
20 what the pressure is as we start to heat the tank
21 and what the temperature thermals on the tanks
22 were. We are very cognitive of that. It's a
23 problem we had at Oak Ridge and the engineering
24 around it.

25 MR. MICHAEL: After we evaluated the

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1 tank sites with the different technologies, we
2 wanted to present to you tonight our preferred
3 alternatives, but we recommend the V-Tanks. Our
4 preferred alternative would be the in situ
5 vitrification. Remember, of course, that takes
6 care of the tanks, the soils around the tanks and
7 the contents. As we just discussed, we are doing a
8 treatability study to test this effect on large
9 tanks.

10 If the treatability study was to fail
11 and show us that you could not vitrify a large
12 tank, then our fall-back position would then be to
13 grout the contents in place, remove the soils
14 around them. The tank would stay there, but the
15 contents and everything would be grouted in place.

16 For the PM-2A tank contents, you
17 remember these were the two tanks that were
18 50,000-gallon tanks. The contents was essentially
19 removed at one time. When we say that, we meant
20 the liquid was like less than an inch deep and
21 diatomaceous earth was put in there to bind up the
22 liquids. Some diatomaceous earth was blown in
23 there. These tanks no longer have any free
24 liquids. They just have the diatomaceous earth in
25 the bottom.

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1 Because they are 50,000-gallon tanks,
2 they are approximately 15 feet in diameter. The
3 tanks sit 10 feet below the surface of the ground.
4 So that layer of diatomaceous earth that has the
5 rad contamination 25 feet below the ground. Our
6 preferred alternative for this tank would be the in
7 situ treatment by putting an inert material either
8 in, say, sand, we could put grout or something in
9 there to fill up the void space in the tank and
10 then we would leave it in place and control it with
11 a permanent marker and that sort of thing.

12 AUDIENCE MEMBER: Again, that waste is
13 listed in situ treatment plan as a mixed low-level
14 waste. What your proposing here is a permanent
15 disposal site for mixed low-level waste that does
16 not meet EPA, Subtitle C, requirements or NRC
17 requirement -- well, it might meet NRC for low
18 level, but it definitely does not meet the
19 requirements, EPA requirements disposal sites.

20 You don't have any liners. You don't
21 have any leachate detection systems in there.
22 You're not talking about impermeable caps. You
23 know, none of your alternatives meet the legal
24 requirements, whether it's the in situ
25 vitrification or the, you know, the grout. I mean,

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1 that whole thing about grout, that was, you know,
2 that battle has already been won at Hanford. You
3 know, it's just not acceptable, not to the public
4 and wasn't acceptable to the regulators.

5 You know, you're just not meeting the
6 legal requirements with any of these alternatives
7 that you're proposing. With the V-Tanks, I mean,
8 when I look at the data, it's just awesome with
9 cobalt at 101,000 picocuries per liter,
10 cesium-134 at 16,900, cesium-137 at 12,000,500,
11 europium-152 at 883,000, europium-154 at 938,000,
12 plutonium-237 at 7,000, plutonium-239 at 3,220 --
13 remember that has a 24,100 year half-life -- gross
14 beta at 16,000,000, gross gama at 24,000,000, gross
15 alpha at 19.8, tritium at 11,000,800, total
16 strontium is 1,840,000. It just goes on and on.
17 That was just the V-1. I could go right on down to
18 the V-2, V-3s. V-3s are even worse. Then you get
19 up to, you know, end of the V-9, which is really
20 awesome. V-9, you got americium-241 at 40,200,
21 plutonium-238 at 170,000. Plutonium-239 at 45,300,
22 uranium-233 at 12.4, unranium-234 at 211,000,
23 uranuim-235 6,900, 236 at 3,000, cesium at
24 6,370,000, tritium at 353,000,000.

25 MR. CODY: Chuck, what is the point?

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1 AUDIENCE MEMBER: The point is that it's
2 damn hot stuff.

3 MR. CODY: Do you have a point in regard
4 to vitrification?

5 AUDIENCE MEMBER: The point is that this
6 is a mixed waste and you're proposing a permanent
7 disposal site that does not meet the legal
8 requirement for a mixed waste dump. That is the
9 point. It does not meet the legal requirements.
10 You'll have no way of monitoring any kind of
11 leachate problems that might occur there. You
12 know, there is no liner. There are reasons why
13 those regulations require those kinds of
14 construction criteria. There is a reason for
15 that. Look at all the failed rad waste sites,
16 Rocky Flats, that different places like that, you
17 know, where we learned the hard way. They are now
18 Superfund sites having to be cleaned up because
19 they didn't meet -- they didn't have the kind of
20 liners and things like that, impermeable caps and
21 all that sort of thing that we now know you have
22 to have in order to have a reasonably secure
23 repository, permanent repository for this stuff.

24 MR. GREEN: The vitrification will
25 destroy the organics; there is no doubt. And what

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1 is not destroyed, we will pick up in the off-gas
2 system, so there are no organics left. After the
3 glass is allowed to cool -- and this will be a
4 glass monolith. We will go down and get down to
5 the bottom of it. We will take samples to verify
6 that there is some cadmium as a hazardous waste,
7 too, for metal, cadmium, that we can do TCLP and
8 see the leachability of this monolith. If it's
9 determined that the leachability doesn't pass
10 criteria, it will be dug up. But this will be a
11 big, huge piece of glass.

12 AUDIENCE MEMBER: You have more than
13 cadmium. You have about 37 different chemicals
14 that exceed the TCLP.

15 MR. GREEN: That's characteristic for
16 metals.

17 AUDIENCE MEMBER: It's one of them.

18 MR. GREEN: It's one of them. But we
19 will test the glass model after it's done and it's
20 cooled. One of the real -- you've read it, and you
21 see the problem. You have PCB waste in there. We
22 have an effluent waste in there. We have a
23 characteristic hazardous. We have tritium. We
24 have very, very high radionuclides, so when you
25 look at the alternative to what can you do with

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1 that waste. Well, you can say I have to incinerate
 2 to meet the standards for the organics, so you
 3 incinerate some. You have your tritium.
 4 You have all your rad. The treatment for that,
 5 sequentially, to meet everything is just horrific,
 6 and you're going to create almost a waste stream
 7 that is great as what you stored it with, just with
 8 your surface equipment stuff. It's a terrible
 9 mixed waste, and you're very limited to what you
 10 can ultimately do with a waste like that,
 11 regulatory-wise and also engineering-wise.
 12 AUDIENCE MEMBER: Well, I'll tell you,
 13 there is a lot of us on the public side that think
 14 that whole approach is really bogus and does not
 15 really address the real problems because,
 16 obviously, you know, the purely radioactive parts
 17 are still in sort of a regulatory never-never
 18 land. RCRA is the only one that really keeps your
 19 feet to the fire in some of these things, but we
 20 see your treatment, your whole treatment approach
 21 is that to try to get rid of the RCRA stuff so
 22 you're back in the loosey-goosey area of rad waste
 23 where you can do darn near what you want and get
 24 away with a lot of things.
 25 MR. GREEN: Well, incineration meets the

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1 treatment standards for organics and the PCBs, so
 2 we're meeting the required RCRA standards for the
 3 treatment of those two waste streams. The
 4 radionuclides, as you know, they are going to be
 5 there in this glass monolith.
 6 AUDIENCE MEMBER: For thousands and
 7 thousands of years, a good deal longer than any
 8 kind of institutional control is going to be there
 9 to deal with it, any commitment to institutional
 10 control.
 11 MR. MICHAEL: To summarize what we have
 12 done tonight, we have talked about the history of
 13 the site. We have talked about the evaluations
 14 that was performed. We talked about the eight
 15 sites and described them. We talked about the
 16 alternatives that we have looked at to address
 17 those sites, and then we've talked about what we
 18 feel and what to present to you as our recommended
 19 alternatives so we can get your response and get
 20 your questions.
 21 The total capital cost for addressing
 22 these eight sites is \$25.8. I kind of mention this
 23 where we're at right now. The proposed plan has
 24 been presented to the public so that you can review
 25 this. Our next step now is to collect all the

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1 comments and develop the Record of Decision. The
 2 Record of Decision will be finalized in the fall of
 3 this year, is the current schedule. And as soon as
 4 the Record of Decision is finalized, the next step
 5 is when the remediation remedial design starts to
 6 support the remedial activities.
 7 I'm going to turn it back over to Erik
 8 now.
 9 MR. SIMPSON: During the presentation
 10 you-all asked questions. Are there any other
 11 questions that you would like to focus toward our
 12 presenters?
 13 AUDIENCE MEMBER: Yeah. I would like to
 14 know why the ANP cask storage pad wasn't included.
 15 MR. GREEN: The dry storage pad?
 16 AUDIENCE MEMBER: Yeah, I think so. I
 17 mean, you got pretty high gross alpha, gross beta,
 18 cesium. I mean, it's a hot spot.
 19 MR. GREEN: If it is the dry storage
 20 cask where they are doing experiments, that is a
 21 radiologically managed area an IMA or a controlled
 22 area. We have no evidence that there is -- if
 23 you've seen it, it's just literally a concrete pad
 24 with the rad fence around it, and they have these
 25 casks over there, and they are doing experiments, I

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1 guess, for dry storage. I'm not sure what they do,
 2 but there is no releases out past the concrete.
 3 AUDIENCE MEMBER: The gross beta is
 4 25,600 picocuries per gram. Cesium is 30,400.
 5 MR. GREEN: That must not be the same
 6 pad because this you can walk right up to it and
 7 look at it.
 8 AUDIENCE MEMBER: It's called ANP Cask
 9 Storage Plant, ANP, Aircraft Nuclear Propulsion.
 10 MR. CODY: Cask storage plant? You were
 11 asking why that wasn't included?
 12 AUDIENCE MEMBER: The Area 10 reactor
 13 vessel burial site wasn't included. I mean, you
 14 got a buried reactor core in its shield plug there,
 15 and you're not even including it in this RI/FS.
 16 You can't call it a comp plan. It isn't a comp
 17 plan.
 18 MR. GREEN: It's included in it. It's
 19 just a No Action Site. I don't know if "core" is
 20 the right word.
 21 MR. MICHAEL: It's a core vessel. It's
 22 a reactor core vessel. It was stored in it. The
 23 core is not there.
 24 AUDIENCE MEMBER: But those are still
 25 really hot. The point is that, yeah, you took some

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1 soil samples at five feet, but you got to go back
2 in there and do soil sampling clear to the bottom
3 of those things in order to offer the public any
4 kind of reassurance that a No Action is the
5 appropriate way to go.

6 MR. GREEN: When you look at the
7 borings, the way the vessel -- there was an
8 underground storage tank, they cut off the top and
9 put it in the ground and they used it to put it in
10 there and they put the plug and put a dog house on
11 top of it. It's wedged in there, so it isn't a
12 tank where we have sampled around it, and we got, I
13 think, a little further than five feet. Obviously,
14 we never got under it.

15 AUDIENCE MEMBER: Which is where you
16 got to go in order to have any kind of assurance
17 that it's not a release problem, but there again,
18 you go back to the mercury that was used as
19 shielding and those things. You're going to have
20 real serious potential problems with mercury as
21 well, so it's going to be another mixed low-level
22 waste scenario. Again, it doesn't meet any of
23 the legal criteria for mixed low-level permanent
24 disposal sites.

25 The TAN pool, storage pool.

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1 MR. GREEN: That is a co-located
2 facility. Dave explained it. What we looked at,
3 when we first started the co-located facility,
4 there was some questions raised, essentially
5 like you have, how comprehensive are these
6 comprehensive? In other words, can this thing
7 impact your risk assessment, so we looked an the
8 pool. It's obviously monitored for water level.
9 We did a short study -- or I should say -- we
10 looked at the wells down-gradient of the pool. We
11 had historically, to make sure there was no tritium
12 inclusions, that would be what we would see if it
13 was released, but the 607 building itself is
14 included as one of our co-located facilities. That
15 would mean that it has a potential of a release, we
16 have a demonstrated and there is none known, but it
17 was identified as having a potential, which under
18 CERCLA is part of the process.

19 AUDIENCE MEMBER: All right, but there
20 again, you have to do soil sampling around the
21 perimeter in order to be able to -- and you need
22 to put that out, that kind of stuff needs to be in
23 these plans in order for it to be a credible
24 process, but the point is that it's not a compliant
25 facility because it doesn't have any liners, and

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1 it's probably leaked like hell and for the same
2 reason that is why it's being shut down. There is
3 a whole program to empty the pool of all the TMI
4 waste and whatever else is in there and get it in
5 the dry storage and D&D, the pool.

6 MR. GREEN: That is part of that
7 agreement, but we have set remedial action
8 injections for these co-located facilities, so when
9 the facility is taken out in the year 2015, or
10 whatever the agreement says, and they take the
11 building down as to whether it has any utilization,
12 we will ensure that there is no contaminants of
13 concern that exceed risk levels there. So we
14 monitor wells down-gradient currently now. We look
15 for tritium there. And if there is a release, it
16 will be like the reactor vessels, it is going to go
17 straight down. And that will be the time that we
18 do it, but the pool level is monitored continually,
19 although it is a single-walled pool.

20 AUDIENCE MEMBER: It's just about as
21 effective as the ECF is. That's why it's a
22 noncompliant facility, and that is why 603 was shut
23 down. It was noncompliant. You can't say it
24 doesn't leak because you really don't have a system
25 in place that can really accurately track whether

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1 you've got leaks or not. The only way that you can
2 track whether a facility is leaking is when you
3 have a credible -- a liner system in there and any
4 kind of monitoring of what gets through the liner
5 into a secondary containment. I mean, if you don't
6 have that, you don't have a really reliable system
7 that is going to make any sense to me that you
8 could say that the thing doesn't leak.

9 MR. GREEN: Well, like I said, we do the
10 monitoring, so we know what water is put in the
11 pool and how much is left. We know evaporation
12 rates, so we know it's not leaking like a sieve. I
13 can assure you that we're very sensitive to this
14 because I worked back at the Brookhaven project.
15 We went over there when they had the problems with
16 their leaking pool there, so we're very cognizant
17 that we need to be very diligent to make sure that
18 that pool is not leaking so we end up now in a
19 tritium plume or in the gravel out there. So we
20 don't see it in our down-gradient wells. The pool
21 levels monitored -- I guess, in term the of DOE's
22 operational guidelines -- sufficiently to say that
23 it's not leaking or it's not leaking a significant
24 amount. It's concrete, and concrete over time
25 will --

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1 AUDIENCE MEMBER: But you do have a
2 tritium plume.

3 MR. GREEN: We have a tritium plume that
4 emanates from the TSF-05 injection well.

5 AUDIENCE MEMBER: With it being in that
6 close proximity, how can you definitely say that it
7 was just from that injection well? I mean, hell,
8 they are a stone's throw apart.

9 MR. GREEN: Yeah, but, you know, we had
10 the wells, and we don't see it then we see it, so
11 the plume --

12 AUDIENCE MEMBER: They are huge plumes,
13 particularly the tritium in the VOCs. They are
14 huge.

15 MR. GREEN: Well, it extends down close
16 to two miles, I guess, or just over a mile and a
17 half in length. It's a fairly narrow band. It's
18 not even a half-mile wide. But it's monitored. We
19 have lots of wells, so we know where the plume is.
20 We have a good handle on that. We have been out
21 there for six years.

22 AUDIENCE MEMBER: Oh, well.

23 MR. CODY: I don't know, Chuck, if any
24 facilities like you're talking about -- because
25 we're stuck with stuff that was done two to three

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1 decades, four decades ago, whatever. You don't
2 have walls with those liners on. What we're stuck
3 with in 1998 is verification sampling and borings
4 and all that. Whether we like it or not, those
5 buildings, like 607. Is that what you said?

6 AUDIENCE MEMBER: 603.

7 MR. CODY: 603. We are stuck with the
8 sins of the past with some of those, and that is --
9 I mean, I don't know how you would get a double
10 liner system under a building now. You would have
11 to go in there. If you want to see what is under
12 there, you have to do a complete program of
13 verification sampling and borings and things like
14 that. That is about the only thing that we're left
15 with now.

16 AUDIENCE MEMBER: Well, you say -- I
17 mean, in those specific instances like a building
18 or something.

19 AUDIENCE MEMBER: You say that you're
20 stuck with the sins of the past, but I see you
21 signing off on clean-up proposals that are just
22 reruns of the old way of doing things. You know,
23 what does it take to get you to understand that the
24 subsurface disposal area failed? And there is
25 contamination in the aquifer as a result of that

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1 approach to dealing with radioactive mixed
2 radioactive waste, that that shallow-land burial
3 approach doesn't work. It never has worked. And
4 it certainly isn't going to work in the future,
5 that is why there is regulations out there covering
6 that type of waste. So I don't appreciate what
7 you're saying because you're literally making
8 future clean-up programs as you move through this
9 process because the proposed plans aren't going to
10 work. They have already failed. That whole
11 approach to the shallow-land burial.

12 MR. GREEN: There is some difference in,
13 like, for the V-1, 2 and 3 leaving a glass model
14 there versus an area where drums and stuff were
15 tipped over into a hole and the dirt put on top
16 of it. Their transport mechanisms are much
17 different. The glass is essentially like granite,
18 its leachability is extremely high. I can't say
19 that it will last as long as the radionuclides, but
20 it's a fairly durable thing. But, like I said,
21 leaving that there is not real comparable to
22 dumping the drums and documenting sludges in the
23 STA.

24 AUDIENCE MEMBER: Well, it's just like a
25 lot of this untried technology that has floated

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1 around that hasn't gone through, you know, the kind
2 of trials that is really necessary. I mean, look
3 at how badly we got snookered into Pit 9 with
4 untried technology. Oh, yeah, we got this great
5 separations process that is going to do this, that
6 and next thing, and it never worked. We told
7 you-all way back when that it wouldn't work, but
8 were you listening? No.

9 MR. GREEN: The process of getting
10 there, the fact that it failed or is not working as
11 everybody hoped, but the concept of taking this
12 waste and turning into an inert form into a blast
13 is still, to me, a valid way to go at it. The fact
14 that the route that was chosen may not have panned
15 out. That is why we're doing the treatability
16 study up at Hanford to make sure for that, that we
17 can have an extremely high degree of confidence.
18 If we don't know that we can glass those tanks in
19 one good pass, we won't do it because there is too
20 much -- you will have an even worse mess to deal
21 with. How do you remediate something that is half
22 melted and you've lost the integrity of the tank?

23 AUDIENCE MEMBER: Well, I will tell you
24 there are lessons learned in what the approach, the
25 regulators and the public demand of DOE-Richland in

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1 which they stuck with vitrification of everything.
2 You know, okay, you want to separate it, whatever
3 you want to do. But you are going to end up with a
4 vitrified final form. And why? You can control a
5 process like a whole lot better when it's in a
6 manufacturing setting.

7 When you're talking about in situ
8 vitrification, I mean, you can't really control
9 that very well. And you're not even going to have
10 that good of an idea as to how good the final form
11 was. And the other thing is that when it's
12 vitrified in a plant and then you can take that
13 waste form and then put it in a reasonably secure
14 compliant repository and have that extra level of
15 protection and ability to monitor it so that if it
16 does have problems, you can deal with it.

17 Your approach, you don't have any of
18 that. That's why they went that way, and I can
19 understand it because there is an awful lot of
20 unknowns. You've got different through-puts and
21 different kinds of waste streams that you have to
22 deal with and all, and all of the variabilities
23 that that is going to put into the equation, in
24 terms of what is your final form going to be and
25 how stable is it going to be. But you can control

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1 a lot more of that when you're dealing with a
2 plant, a vitrification plant that you can't do with
3 in situ.

4 MR. SIMPSON: Chuck, I would like to
5 give the agencies an opportunity to respond to your
6 comments. If you could, make those statements
7 during the comment period, then they will respond
8 to them in the responsiveness summary.

9 AUDIENCE MEMBER: I hope they aren't
10 going to say it again.

11 MR. SIMPSON: You'll submit written
12 comments, though.

13 AUDIENCE MEMBER: Nancy's got it all.

14 MR. SIMPSON: Any other questions before
15 we move on to the comment period?

16 AUDIENCE MEMBER: Do I understand that
17 some of these proposals involve an administrative
18 control or a barrier that will be abandoned after
19 100 years or is the situation -- again, what is the
20 situation going to be after 100 years? Is it going
21 to be one that will just be considered in the
22 future or is it known now that after 100 years what
23 is going to happen is okay?

24 MR. MICHAEL: One of the things with
25 anything that was left in place will have a

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1 permanent marker, of course, that will last longer
2 then 100 years. That is also one of the reasons
3 why we discussed the deed restrictions also.
4 AUDIENCE MEMBER: Okay. But the things
5 that are there, all of the nonradioactive materials
6 and radium-226 and so on, they won't be very much
7 different after 100 years from the way they are
8 now. If the situation that you're proposing with a
9 permanent marker is okay after 100 years, why isn't
10 it okay now?

11 MR. GREEN: When this was determined, I
12 guess, through the advisory board that 100 years
13 was a reasonable period of time that DOE could
14 assume that they were in control of the site.
15 Whether, in fact, like Chuck said, it's 10 years or
16 500 years, that is fairly uncertain, but number
17 "100" was developed as a consensus that this is a
18 reasonable length of time, but you're right, what
19 would happen to the fences, especially for the
20 metal contaminants, like, they are going to be
21 there regardless if a fence is there. I mean, they
22 aren't going away, so that is good question, but
23 that is just our planning basis. But right now, in
24 terms of looking at these sites, we might not put a
25 fence around the burn pits because DOE has control

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1 there now. So some of these sites, there may be a
2 fence because there may be some lacking of DOE
3 control in terms of access of somebody who just
4 wandered on there, I guess.

5 AUDIENCE MEMBER: 1998 -- I guess, as I
6 go over it, it doesn't seem infinitely long ago
7 so -- well, I know you have to come up with some
8 sort of a planning horizon to use. You used 100
9 years. That is essentially the answer. After 100
10 years, let them worry about it then.

11 MR. GREEN: It's as far in the future
12 that I think everybody was comfortable saying that
13 DOE would still be an entity, so it is a plan. But
14 we had input from the Site Specific Advisory Board
15 on that, and I think they determined it was a
16 reasonable length of time.

17 AUDIENCE MEMBER: It was not a consensus
18 decision because they fought that tooth and nail.

19 MR. GREEN: It was a nonunanimous
20 decision, but it was one that was made.

21 MR. SIMPSON: Other questions? With
22 that I would like to open it up for public
23 comment. This is the portion of the meeting where
24 your comments are recorded by our court reporter,
25 and she will record them verbatim. And when you

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1 make a comment, please state your name and spell it
2 and give a street address. This is so we can send
3 you a copy of the Record of Decision and
4 Responsiveness Summary where your comments will be
5 responded to by the agencies.

PUBLIC COMMENT

9 AUDIENCE MEMBER: Chuck Broschious
10 B-r-o-s-c-i-o-u-s, executive director of the
11 Environmental Defense Institute, Post Office
12 Box 220 Troy, Idaho 83871.

13 Just to repeat myself, to make sure it
14 gets in the public record. Is the proposed plan
15 for Test Area North, it's not a comprehensive
16 plan. As I mentioned, it didn't include the ANP
17 cast storage pad or the Area 10 reactor vessel
18 burial site or the TAN pool and contaminated soil.

19 The other proposed actions do not meet
20 regulatory requirements for a permanent disposal
21 site for mixed low-level waste under Resource
22 Conservation Recovery Act, Subtitle C,
23 requirements. And it's truly terrible that the
24 regulators are not forcing the Department of Energy
25 to come up with plans that meet all regulatory

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1 requirements.

2 The approach with the same waste streams
3 at Hanford resulted in a much different and
4 regulatorily defensible approach, in terms of the
5 Environmental Restoration Disposal Facility, which
6 is a RCRA, Subtitle C compliant and NRC compliant
7 mixed low-level waste site. That is what should be
8 done with this waste. And we'll do our best to try
9 to convince you to do it. Thank you.

10 MR. SIMPSON: Thanks, Chuck. Anyone
11 else? Okay. I would just like to mention that we
12 will hold technical briefings for anyone who would
13 like on this project. Also the comment period
14 remains open until March 18th. And if you'd like
15 to take a proposed plan and provide written
16 comments by writing on the comment form attached
17 and just folding it and placing it in the mail, we
18 will get that as well.

19 The next time that we will be here in
20 Moscow will be in May. At this point it's
21 tentative, but in early May to discuss the results
22 of the Idaho Chemical Processing Plant
23 Comprehensive Remedial Investigation/Feasibility
24 Study and also to remind you that the comment
25 period remains open on the Naval Reactors Facility

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1 and Argonne National Laboratory-West until the
2 12th of March. So with that, thanks for coming.
3 We will hang around afterwards, if you have any
4 other questions.

6 (Meeting concluded at 8:55 p.m.)

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1 STATE OF IDAHO } ss.
2 County of Ada)
3
4

5 I, NANCY SCHWARTZ, a Notary
6 Public in and for the State of Idaho, do hereby
7 certify:

8 That said hearing was taken down by me
9 in shorthand at the time and place therein named
10 and thereafter reduced to computer type, and that
11 the foregoing transcript contains a true and
12 correct record of the said hearing, all done to the
13 best of my skill and ability.

14 I further certify that I have no
15 interest in the event of the action.

16 WITNESS my hand and seal this 20th day
17 of March, 1998.

18
19 Nancy Schwartz, Notary
Public in and for the

20 State of Idaho

21 My commission expires:
22 September 28, 1998

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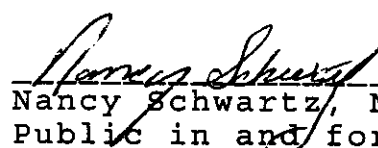
STATE OF IDAHO)
) ss.
County of Ada)

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the foregoing transcript contains a true and
correct record of the said hearing, all done to the
best of my skill and ability.

I further certify that I have no
interest in the event of the action.

WITNESS my hand and seal this 20th day
of March, 1998.



Nancy Schwartz, Notary
Public in and for the
State of Idaho

My commission expires:
September 28, 1998

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